Commercial Jet Boat Driver Performance and Job Satisfaction: An Exploration into Potential Predictors from a Personality and Values Perspective

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Abstract

Personality and work values have long been established as useful predictors of job satisfaction and job performance within an organisational setting. The present study investigates these relationships, but in an occupation that has not been reported to date in the Industrial/Organisational psychology literature – that of commercial jet boat driving. The present study looked at several personality factors and values structures as predictors of jet boat driver performance and job satisfaction. As well as acting as a criterion in the study, job satisfaction was also considered as a predictor of job performance. Predictor data was obtained from 31 participants working for a major New Zealand tourism company across three jet boat operations. Criterion data was obtained from archived incident data and performance ratings from the managers of the three operations. Using multiple regression analysis, results showed that universalism was the only significant predictor of job performance. No variables were predictive of incident frequency or job satisfaction. Results and implications of the research are discussed.

Accurately predicting job performance has been, and remains, one of the most heavily researched areas in Industrial/Organisational psychology. For researchers, understanding job performance as a construct and recognising the numerous complex relationships it has with other organisational variables has proven a cornerstone of the Industrial/Organisational psychology profession for many years. For organisations, effective personnel recruitment and selection is one of the most critical steps in the establishment and growth of an organisation. As organisations expend a great deal of time and resources to match the right person to the job, understanding the variables that can help predict job performance is crucial to the modern organisation.

This is certainly the case for companies employing commercial jet boat drivers. Not only are jet boat drivers tasked with providing their passengers with an exhilarating experience, they are also charged with keeping safety as their number one priority. It goes without saying then, that selecting drivers with the right mix of personality characteristics is essential for any employer in the jet boat industry. As well as looking at personality as a predictor of job performance, the present study will also look at work values and job satisfaction and how they fit into a performance model for a jet boat driver. Before looking at these variables however, it is necessary to discuss how the complex construct of job performance operates.

Job Performance

A central concern for I/O psychologists over the years has been in quantifying job performance as a construct. Although it is appealing to think of job performance as a

unidimensional construct, it is rarely that simple (Borman, Klimoski & Ilgen, 2003). Motowidlo (2003) defines job performance as "the total expected value to the organisation of the discrete behavioural episodes that an individual carries out over a standard period of time." Important points of this definition include the terms "behaviour" and "organisational effectiveness" in that variance in performance is variance in the expected organisational value of behaviour (Motowidlo, 2003). Furthermore, as performance is synonymous with behaviour, it includes those actions that are relevant to the organisations goals and can be measured in terms of each individual's proficiency. Performance must always be distinguished from effectiveness as effectiveness refers to the evaluation of the results of performance and is beyond the influence or control of the individual (Campbell, McCloy, Oppler & Sager, 1993). Therefore, if performance is behaviour, then any predictive model of performance should focus on the properties of behaviour instead of solely on the results of behaviour. This is because results are often unreliable measures of performance due to their susceptibility to contamination by extraneous variables. Although there is no steadfast way of quantifying an individual's job performance, supervisory ratings of performance have historically been among the most popular performance appraisal methods (Schneider, Goff, Anderson, & Borman, 2003) with validity levels that are not far removed from expensive multisource feedback methods such as 360 degree feedback (van Hoft, van der Flier & Minne, 2006).

Predictive Models of Performance

For much of the 20th century, the classic model of performance dominated applied research. The classic model revolves around the idea that performance is one thing – a general factor that accounts for almost all of the true score covariance among observed measures. It involves correlating one predictor with one criterion, colloquially known as an "ultimate criterion" (Campbell, McCloy, Oppler and Sager, 1993). As far as job performance is concerned, the classic view specifies that performance is an objective indicator of individual accomplishment, for example, the number of units produced or sales figures. Whilst objective data is often seen as preferable by many organisations, this is one of the major problems with the classic model that stipulates objective data to be the best possible measure. It is close to impossible to find any objective data that is not restricted by extraneous variables such as bad equipment or a slow assembly line therefore, therefore the notion of an ultimate criterion cannot possibly exist (Campbell, 1990).

In order to counter the criterion problem that had been holding back applied research for decades, Campbell (1990) developed a new groundbreaking model of job performance. The Campbell model distinguishes performance from effectiveness and productivity and instead focuses on the properties of behaviour (Campbell et al., 1993). According to Campbell (1990), performance is made up of three major determinants – declarative knowledge (DK - knowledge, facts, information or "knowing what to do"), procedural knowledge (PK - skills or "knowing how to do it") and motivation (M - effort choices directed toward a goal with three components – choice to perform level of effort and persistence of effort). Campbell (1990) also defined eight behavioural components of performance that he claimed are "sufficient to describe the top of the latent hierarchy in all jobs in the Dictionary of Occupational

Titles" (Campbell, 1990, p. 708). Each performance component can be described as a factor of job performance for example, "managing office files". The eight behavioural dimensions are: job specific task proficiency, non job-specific task proficiency, written and oral communication, demonstrating effort, maintaining personal discipline, facilitating peer and team performance, supervision, and management/administration. An individual's performance on any of these particular components of job performance is the direct functioning of the three aforementioned determinants – knowledge, skill and motivation. All other individual differences such as personality interests, intelligence, knowledge and education exert an influence on performance through their effects on PK, DK and M.

Following on from this, Project A, a monumental research project carried out from 1982-1989, sought to validate the US Army's vocational battery (Cook, 2006). The Army sponsored two large-scale development and validation projects, Project A (concurrent validation study including more than 9,000 personnel) and Building and Retaining the Career Force (a longitudinal validation study of about 40,000 soldiers) (Campbell, Harris & Knapp, 2001). The work carried out in Project A has been invaluable to the science of personnel selection and yielded a number of important findings. Firstly, for both the individual differences and the job performance criterion domains, the emphasis on latent variables and latent structure rather than methods or particular measures was crucial for generalising results. Secondly, the notion of an ultimate criterion for performance was laid to rest. Different criteria and criterion measures were needed to capture the performance space, reinforcing the idea that performance is a multidimensional construct. Finally, the research confirmed that

while cognitive ability is a robust predictor of job performance across jobs (Schmidt & Hunter, 1998), some job performance criteria such as contextual performance, can be better predicted by personality measures (Cook, 2006; Borman, Klimoski & Ilgen, 2003).

Performance Constructs

When asked to define job performance, the vast majority of people will immediately think of it in terms of what is commonly known as "task performance". Task performance behaviours are role prescribed behaviours that either directly transform raw materials into products or services or that service and maintain the technical core (Borman & Motowidlo, 1993). Contextual performance on the other hand, is a set of valued behaviours that shape the organisational, social and psychological context of the workplace (Schneider, Goff, Anderson & Borman, 2003). Borman and Motowidlo (1993) stated that individuals contribute to organisational effectiveness in other ways beyond the activities that constitute the job, that is, outside the formal requirements of the job. For this reason, more attention should be given to the criteria beyond the core task performance. In order to contribute to organisational effectiveness, individuals do more than just complete the activities that comprise their job as stipulated in a job description. They can do many things that are not directly related to their main task functions and this is commonly known as contextual performance.

Although many would consider contextual performance to be more important for certain jobs, one would expect that for "blue collar" jobs such as a jet boat driver it

would be of significantly lesser importance than task performance. A study by Motowidlo and Van Scotter (1994) showed that this is far from the case when they conducted research on 421 US Air Force Mechanics. Based on supervisory ratings of task performance (job specific task proficiencies that were laid out in the job description) and contextual performance (non job specific task proficiencies such as "cooperating with others"), results showed that task performance and contextual performance were equally important correlating .43 and .41 respectively with overall job performance. Similar findings have been reported by Borman, White and Dorsey (1995); Dunn, Mount, Barrick and Ones, (1995); and Ferris, Judge, Rowland and Fitzgibbons (1994). Based on these findings, any predictive model of job performance for jet boat drivers should include some measure of contextual performance.

Measuring Performance

When it comes to measuring and predicting performance, there are multiple ways in which to do so (Landy & Farr, 1983) and in general, these can be broken down into two categories – judgemental and subjective measures (e.g. supervisory ratings self ratings, peer ratings) and non judgemental/objective measures (e.g. sales volumes, number of incidents/accidents, turnover). Because there is no "holy grail" measure of performance there are limitations to both objective and subjective criteria and a combination of the two is usually seen as desirable.

Accidents/Incidents as a measure of performance

While accidents and incidents are generally used as a measure of performance for those in blue collar jobs that involve manual labour, they can also be useful as a measure for those in the adventure tourism industry. One of the key selection criteria for any successful jet boat driver is that they have low accident risk potential, thus it is just as important to identify risk factors in drivers as it is success factors. Whilst one would expect experienced drivers to be of lower risk, no amount of experience can compensate for certain personalities deemed to be "high risk" as a study by Shaw and Sichel (1971) discovered. They conducted a comprehensive review of 212 South African bus driver's accident statistics to gauge whether it was possible to predict whether certain personalities were higher risk than others. Significant relationships were found between extraverted and emotionally unstable personality characteristics and the number of reported accidents for drivers (Shaw & Sichel, 1971). Further studies have backed up some of these earlier findings with certain personality characteristics such as sensation seeking, having an indirect effect on accidents via their mediation with driver behaviours (Sumer, 2002).

Supervisory ratings as a measure of performance

Supervisory ratings are amongst the most common methods used for measuring performance. Although ratings are susceptible to error such as halo effect and central tendency error, they can be used to take into account the behavioural performance of employees – something that objective data lacks. A substantial amount of researchers have suggested that high performance ratings are reflective of error in ratings. Muchinsky (2006) however, counteracts this claim and suggests that managers who give their subordinates high ratings are behaving in a reasonable fashion. Employees

are trained to exhibit desired behaviours on the job and when they do not meet their manager's expectations on these jobs they are often dismissed, resulting in lower numbers of low performers in the workplace. Furthermore, the performance of a manger's subordinates is sometimes seen as a reflection of the manager's own performance so it is not entirely surprising that some managers inflate ratings slightly to portray themselves in a favourable light.

A further interesting study with regards to supervisory ratings of performance was conducted by Jawahar and Williams (1997). They were able to show that performance appraisals conducted for organisational purposes showed higher ratings than those that were conducted for research or developmental purposes. The study meta-analysed performance appraisals given for administrative/promotional purposes and performance appraisals given for research/developmental purposes. The study showed that administrative/promotional appraisals were one-third of a standard deviation higher than those obtained for developmental/research purposes. These findings suggest that performance appraisals are much more lenient when they are "for keeps" (Muchinsky, 2006).

Job Satisfaction-Performance Relationship

Job satisfaction has been studied extensively over the past several decades in particular the antecedents which contribute to job satisfaction and the consequences that result within an organisational context. The reasons for this are obvious – organisations would prefer over almost anything else, a workforce that is both satisfied and productive (Muchinsky, 2006). Whilst the relationship between job

satisfaction and turnover intentions has been well established, the relationship between job satisfaction and performance has not been so conclusive. Many studies surprisingly, have found the relationship between job satisfaction and turnover to be relatively small and there seems to be some confusion over the true direction of the relationship (Hochwater, Perrewe, Ferris & Brymer, 1999; Judge, Thoreson, Bono & Patton, 2002).

Job satisfaction is generally defined as an employee's affective reactions to a job based on comparing actual outcomes with desired outcomes (Fields, 2002) and there have generally been two major schools of thought in the literature concerning its relationship with performance. One is that satisfaction leads to performance and the other is that performance leads to satisfaction. Schwab and Cummings (1970) argue that performance is a result of satisfaction that the worker gets from his/her job and that higher levels of satisfaction will lead to higher levels of productivity. Conversely, two-factor theory of job satisfaction (Herzberg, 1959) is based upon the thought that performance is a result of satisfaction. This theory is based around two groups of factors: hygiene and motivational factors. Hygiene factors are the aspects of work environment preventing dissatisfaction but do not necessarily lead to job satisfaction. On the other hand, motivational factors, including recognition, challenging work assignments, and opportunity for professional growth, are closely associated with the work itself. According to this theory, fulfilment of these factors is expected to lead to job satisfaction, and the jobs providing these factors will lead to job satisfaction, which will lead to better job performance.

For some time, research has suggested that there is a weak relationship between job satisfaction and job performance. The first major meta-analysis on this placed the correlation between the two variables at .17 (Iaffaldano and Muchinsky, 1985) suggesting that if there is a relationship, it is not particularly strong and researchers should invest more time in looking at other independent variables with stronger links to performance than job satisfaction. However, a second more recent meta-analysis was conducted by Judge, Thoreson, Bono & Patton (2001) that suggested there were limitations in Iaffaldano and Muchinsky's (1985) original analysis and the correlation between the two is more likely to be closer to .30. Judge et al. (2001) point out that whilst this is only a moderate effect size, when compared in context to other correlates of job performance such as conscientiousness (.23) and structured interviews (.31), the job satisfaction-performance relationship can hardly be considered negligible. Lucas and Diener (2003) also point out that the relationship between job satisfaction and performance may change as our working world changes. They point out that the economy is continuing to shift from a manufacturing based economy, to a service based economy with a greater emphasis on factors such as teamwork and interpersonal activities among workers.

On the basis of the above literature review, hypotheses one and two for the present study can be stated as:

Hypothesis One: Job Satisfaction is positively related to job performance.

Hypothesis Two: Job Satisfaction is negatively related to incident frequency.

Job Performance Predictors

Personality-Performance Relationship

Personality research on job performance and job satisfaction has recovered markedly since the damaging article by Guion and Gottier (1965) who questioned the validity and utility of personality inventories in personnel selection (Borman, 2004). Much of this recovery can be attributed to Barrick and Mount's (1991) article that was much more positive about the relationship between job performance and the big five personality factors (Extraversion, Agreeableness, Conscientiousness, Emotional Stability, and Openness to Experience). Barrick and Mount reviewed 117 studies utilizing 162 samples with 23,994 participants. Significant relationships were found between all of the big five factors and at least some facets of job performance. Most notably, conscientiousness showed consistent relationships with all job performance criteria and all occupations (Barrick, Mount & Strauss, 1993). Extraversion was a valid predictor for occupations involving social interaction (e.g. management and sales). Furthermore, extraversion and openness to experience were valid predictors of training proficiency criteria.

Since Barrick and Mount (1991), a wealth of articles relating to personality as a predictor of performance have been published. Several further meta-analyses have been conducted on the personality-performance relationship and the common consensus has placed the correlation between the two at about 0.2 (Hurtz & Donovan, 2000). Although this correlation may not seem particularly high, personality has been found to account for unique variance in performance, after partialling out the effects of cognitive ability. In a study of 284 New Zealand police force recruits, Black (2000)

determined that conscientiousness added predictive ability and incremental validity above and beyond cognitive testing. Barrick, Mount and Judge (2001) discuss various 'phases' in research assessing the predictive validity of personality instruments in performance. Their paper provides a strong argument for the lack of significant findings in this domain up to the mid-1980s and implicitly cautions researchers not to simply enter all independent variables into an analysis in an attempt to find correlations. They note that, in recent times, the findings have been more positive and that researchers appear to be heeding another of Barrick, Mount and Judge's (2001) assertions - to use different levels of personality measurement. For example, Timmerman (2004) found significant correlations between conscientiousness (r=.16), agreeableness (r=.16) and supervisor's performance ratings in call-centre staff in the USA. He then went on to examine correlations at the facet level and found that a number of conscientiousness facets, but only one Agreeableness facet, were significantly correlated with performance. Salgado (1997) reported meta-analytic findings from 36 studies carried out in the European community. Conscientiousness and Emotional Stability were valid predictors across occupational groups, whereas Openness and Agreeableness were more likely to show as valid predictors of training success.

This finding was confirmed by Barrick, Mount and Judge (2001). Barrick, Mount & Judge (2001) also noted that extraversion was related to success in specific jobs such as sales or management, but was less related to performance for skilled workers. From the accumulation of the evidence, it does appear that conscientiousness is the most consistent predictor of performance. This assertion has been supported by Matthews

and Deary (1998) in their assessment of Barrick and Mount's (1991) data (Van den Berg & Feij, 2003).

While it is almost universally agreed that the personality-performance relationship is significantly positive, some might argue that the relationship is surprisingly small given the widespread usage of personality as a performance predictor. As mentioned previously, a key determinant in the makeup of performance is motivation and a meta analysis by Judge and Ilies (2002) sought to clarify the relationship between personality and motivation. Analysing personality from a five factor perspective, Judge and Ilies (2002) were able to show that neuroticism ($r = -0.31$) and conscientiousness ($r = .24$) were the most consistent predictors of motivational performance. Furthermore, the big-five as a set correlated strongly ($r = .49$) with motivation, indicating that the big five is an important source of performance motivation.

In terms of practically applying personality as a performance predictor at the organisational level, Tyler and Newcombe (2006) conducted a study utilising the 15FQ+ personality test to predict work performance in Chinese organisations. The study found that four of the "big 5" personality factors (Neuroticism, Openness to experience, Agreeableness and Conscientiousness) correlated significantly with performance dimensions. Surprisingly, extraversion did not correlate significantly with any of the "big 5" factors. This can be partially explained by previous findings showing that extraversion tends to relate to specific occupations or criteria, rather than being a predictor of performance across a range of occupations (Barrick, Mount & Judge, 2001).

Whilst the big five personality factors have been established as being good overall predictors for job performance, are the big five predictive of job performance for more intense jobs like jet boat driving? Whilst no studies have been conducted on jet boat drivers per se, studies have been conducted on other high intensity professions such as the military. An example of how personality can be a valid predictor of performance was demonstrated in a study by Bartram (1995), using the Eysenck Personality Inventory (EPI) and Cattell's 16 Personality Factor Questionnaire (16PF) as predictors of flying training outcome. Although those that sought places in the flying training programme were self selected in that they generally all possessed similar personality characteristics (e.g. emotionally stable and extraverted), the study was able to show that there was a small but positive relationship between personality characteristics and training outcome. Whilst this only added a small increment to validity (r = .10-.20) the high costs involved with training failure still made a significant impact. Salgado (1998) conducted a similar study with the military and found that emotional stability and conscientiousness were just as valid for predicting performance in military occupations as well as civilian occupations. As well as this, the study showed that these factors have incremental validity and added to total validity of around 10% to 11%.

Meronek and Tan (2004) conducted a further study that involved using personality to predict a similarly intense occupation to jet boat driving. Using the 16PF personality scale, the study looked at the big five global factors as predictors of fire-fighter job performance based on performance appraisals from the previous year. The study found the independence subscale was significantly related to job satisfaction (-.40)

and the tough mindedness subscale was significantly related to supervisor ratings of job performance (.39). Interestingly, job satisfaction and job performance correlated reasonably strongly at .31 which is more in line with the previously mentioned meta analysis by Judge et al. (2001).

On the basis of the above literature review hypotheses three and four for the present study can be stated as:

Hypothesis Three: Personality, specifically extraversion, conscientiousness, and anxiety, are all positively related to job performance.

Hypothesis Four: Extraversion and Neuroticism are positively related to incident numbers.

Personality-Job Satisfaction Relationship

While the personality-job satisfaction relationship has historically not received as much attention as the personality-job performance relationship, established relationships have still been found when looking at the five-factor model of personality. Over the last 20 years, an expanding literature has evolved concerning job satisfaction being at least in some part, dispositionally based (House, Shane & Herold, 1996).

Neuroticism for example, indicates a predisposition to experience a greater number of negative life events (Magner, Diener, Fujita & Pavot, 1993) and as would be

expected, these individuals have high negative affect leading to diminished levels of job satisfaction. Extraversion however, is a primary source of positive affect and this positive emotionality has been found to convert into job satisfaction (Connoly & Viswesveran, 2000). Openness to Experience tends to relate to psychological states such as creativity that do not have a strong connection with job satisfaction (McCrae, 1996). Agreeableness would also be expected to correlate with job satisfaction as agreeable individuals are more motivated to strive to achieve satisfying social relationships with people as well as overall life satisfaction (McCrae & Costa, 1991). Conscientiousness, the final of the big five personality factors, would be expected to have a significant relationship with job satisfaction due to conscientious individuals having a strong work involvement tendency leading to more satisfying work outcomes overall (Organ & Lingl, 1995).

Judge, Heller and Mount (2002) conducted a meta analysis in order to firmly establish the linkages between the big five personality traits and job satisfaction. Job satisfaction was found to correlate moderately with three of the big five, namely neuroticism (-.29), extraversion (.29), and conscientiousness (.26). It correlated weakly with agreeableness (.17) and insignificantly with openness to experience (.02).

On the basis of the above literature review hypothesis five for the present study can be stated as:

Hypothesis Five: Personality, in particular, neuroticism, extraversion, conscientiousness are all positively related to job satisfaction.

Work Values

Over the past decade, the values of employees within organisations have been getting increased attention as the source of both what is right and what is wrong with organisations. For example, the performance differences between Japanese and American firms in the same industry (e.g. car and electronics manufacturers) have been attributed to differences in the values of the workers (Fields, 2002). There is a general widespread consensus in the literature regarding five features of the conceptual definitions of values. According to Schwartz (1994), a value has five key components to it – it is a belief, it pertains to desirable end states or modes of conduct, it transcends specific situations, it guides selection or evaluation of behaviour, people or events and it is ordered by importance relative to other values to form a system of value priorities. These five attributes of values are what distinguishes the concept from other similar concepts such as needs and attitudes (Schwartz, 1994). While research on values pertaining to social issues has been plentiful, there has been decidedly less research done around values in an industrial/organisational setting. The research that has been conducted, suggests that we are still someway off a working understanding of the way different factors such as work values, job satisfaction and performance interact with each other (Fields, 2002; George & Jones, 1997).

Values-Job Performance Relationship

Work values have long been hypothesised as having an influence on motivation and job performance (Locke, 1991). Hogan and Hogan (1996) have suggested that values

are objectives through which satisfy needs, indicating they play a key part in the motivation aspect of performance. Achievement in particular, is one value that has consistently shown a positive relationship with performance although the relationship has often been weaker than one might think (Locke, 1991). Adkins & Naumann (2001) hypothesised that this may be due to situational constraints such as a lack of resources or time, and conducted a study to test the relationship between achievement and performance without any situational constraints. They were able to show that the relationship between achievement and job performance is universally positive and that situational constraints moderate this relationship.

One study that focused on predicting job performance in low income workers by using work related attitudes was a study by Johnson, Messe and Crano (1984). The study concerned a number of low income workers in entry level jobs and measured several attitudinal variables against performance on a behaviourally anchored rating scale. Results showed that cooperation, self-confidence, maturity, security and fairness were all significantly related to job performance. Other researchers have also found positive relationships between value constructs and performance. Khaleque (1992) found that values such as high work ethic and competitiveness were significantly related to the performance of industrial workers in Bangladesh. Similarly Siu (2003) was able to show that Confucian work values such as achievement and universalism are also valid predictors of job performance.

In terms of values having an effect on accident/incident potential, Senders and Moray (1991) suggest that values have a part to play in contributing to human error and

accidents. For example, it may be that humans have a preferred level of risk at which they like to operate regardless of the environment they are in, a concept that can best be defined as "risk homeostasis". According to this theory, it is impossible to design error free systems as operators within the system will simply increase the number of risks they take as the overall system becomes less error prone. A study conducted by Abbas & Khan (2007) focused on whether there is a relationship between values and driving style. Participants in the study were exposed to a driving simulator in which they had to complete various tasks. The time to complete the tasks and the manner in which they completed them were recorded and regressed against their responses on the Schwartz (1994) value survey. The study yielded several interesting results. Firstly, drivers with a high desire for power and achievement, were more aggressive and impatient in their driving style. Secondly, drivers that scored high on the conformity scale were more careful and had significantly less accidents than low conformity drivers. Thirdly, drivers who scored highly on self-direction (tolerance for uncertainty) had more self control in uncertain situations.

Hypothesis Six: Achievement, self-direction and universalism are positively related to performance

Hypothesis Seven: Power and achievement are positively associated with incidents. Conformity is negatively associated with incidents

Values-Job Satisfaction Relationship

Although the relationship between values and job satisfaction has not been studied as extensively as the relationship between values and job performance, there is enough evidence in the literature to suggest that values are at least worth looking at as a predictor of job satisfaction.

A study conducted by Knoop (1994) sought to clarify the relationship between values and job satisfaction based on Herzberg's motivator hygiene theory that purports job satisfaction to consist of both intrinsic (value derived from the work itself) and extrinsic (value derived from the context of work) factors. Results showed that intrinsic work related values such as "achievement through work" and "doing meaningful work", and intrinsic work outcome values such as "recognition for work" and "having an influence on the organisation" were the strongest predictors of job satisfaction. As well as finding support for Herzberg's theory, Knoop (1994) was also able to uncover several other needs and values related to job satisfaction such as altruistic and universalistic values. Similarly, Kazanas (1978) found that workers with intrinsic work value orientations, similar to Schwartz's (1994) taxonomy, seemed to be more satisfied with their jobs as well as more productive than those with extrinsic work value orientations.

Arciniega and Gonzales (2005) looked at altruism as a predictor of job satisfaction. Altruism can be described as a regard for the well being of others (Kaunungo & Mendonca, 1996) and it has been shown that those who assign a high priority to altruistic values are less likely to evaluate personal costs and benefits when processing social information (Simon, 1993; Korsgaard, Meglino & Lester, 1997). Based on this,

Arciniega and Gonzales (2005) hypothesised that those who place a high importance on altruistic values would be more satisfied in their jobs than those with low altruism. Two values from Schwartz's (1994) value structure were looked at in particular – benevolence and universalism under the higher order structure of self-transcendence. Results supported the hypotheses that high self-transcendence is a significant predictor of job satisfaction. Arciniega and Gonzales (2005) concluded that this is **because these individuals pay less attention to the evaluation of personal costs and benefits when processing social information**

Hypothesis Eight: Achievement, universalism and benevolence are positively related to job satisfaction.

Method

Participants

The data for the study was obtained from 31 participants employed as jet boat drivers by three well known jet boat operations within New Zealand. Archived data for personality measures and incident reports was sourced from the parent company of the three operations. The values and job satisfaction survey were completed by the 31 participants themselves. The operations managers for each of the three respective jet boat operations completed the performance ratings. All 31 participants were male with a mean age of 31 and mean tenure within the organisation of 3 years.

Prior to commencing employment as a driver, participants completed psychometric testing as part of the parent company's selection process. At the time of completion,

each participant gave consent for their information to be used for research and statistical purposes with the assurance of anonymity. By completing the online values and job satisfaction survey, participants gave their informed consent for this data to be used as well. The parent company and the operations managers also gave their consent for the psychometric data and performance data to be used for the study.

Materials

Personality

The big-five factors of personality were measured using the 100 item 15FQ+, Form C. The 15FQ+ is a personality questionnaire designed to be used in industrial/organisational situations such as this study (Psychometrics Limited, 2002) with questions being designed in two ways. The first way requires a "true, false, uncertain" or "sometimes, rarely, never" response option to questions such as "I enjoy going to the cinema". The second way requires a choice to be made as to which of two activities is preferred – for example, "I prefer to (a) go to parties (b) uncertain (c) read books." The 15FQ+ is a modified version of the original 15FQ. While it still measures Catell's (1946) 16 personality factors, the "intellectance" (B) factor has replaced the reasoning factor contained in the original 15FQ. This is due to common consensus that reasoning (or intelligence) cannot be measured accurately through personality inventories (Tyler, 2003). Intellectance measures a persons confidence in their own intellectual ability rather that their intellectual ability itself.

The 16 primary factors of the 15FQ+ and their levels of internal consistency reliability are shown below in Table 1, with alpha levels for the 16 scales ranging from .62 to .72. According to Psychometrics Limited (2002), these alpha levels are ideal as they are not sufficiently high to suggest that the factors are measuring highly homogenous surface traits. As well as measuring 16 primary personality factors, the 15FQ+ also measures the five global factors of personality, similar to those of the five-factor model of personality (Psychometrics Limited, 2002). These are made up of a compilation of the primary factors. Extraversion is composed of primary scales fA, fF, fH, and fQ2; Global Anxiety is composed of fC, fL, fO, and fQ4 Global Openness is composed of fA, fI, fM, and fQ1; Global Agreeableness is composed of fB, fE, fL, and fQ1; and Global Self-control is composed of fG, fN, and fQ3.

Table 1: Reliability coefficients (alpha) for the 15FQ+ scales

Factor	Scale	Alpha
fA	Distance-aloof – Empathic	.64
B	Low Intellectance – High Intellectance	.71
fC	Affected by feelings – Emotionally stable	.63
fE	Accommodating – Dominant	.66
fF	Sober Serious – Enthusiastic	.63
fG	Expedient – Conscientious	.64
fH	Retiring – Socially Bold	.68
fI	Hard-headed – Tender-minded	.63
fL	Trusting – Suspicious	.62
fM	Concrete – Abstract	.64
fN	Direct – Restrained	.67
fO	Confident – Self-doubting	.69
fQ1	Conventional – Radical	.72
fQ2	Group Oriented – Self-sufficient	.62
fQ3	Informal – Self-disciplined	.63
fQ4	Composed – Tense-driven	.62

Participants of the 15FQ+ were given a score between 1 and 10 for each of the scales and global factors dependent on their responses in the questionnaire. For example, a

score of 9 on scale fC would suggest that the participant is very emotionally stable and is not particularly affected by feelings.

Values

Work Values were measured using the Schwartz Work Value Survey (Schwartz, 1994). The inventory contains 56 outcomes and modes of behaviour measuring 10 distinct scales – power (social status, prestige, control over resources or people), achievement (personal success by demonstrated competence), hedonism (pleasure, sensuous self-gratification), stimulation (excitement, novelty and challenge), self-direction (independence in thought and action), universalism (understanding, tolerance, protection of welfare of people or nature), benevolence (preservation and the enhancement of the well-being of family and friends), tradition (respecting traditions such as culture and religion), conformity (restraint in actions and impulses), and security (safety, harmony and stability of society) (Fields, 2002). Responses were obtained using a 9-point Likert type scale where participants are asked to rate how important they considered each of the 56 items as "a guiding principle in my life" where -1 = opposed to my values, 0 = not important, 3 = important, 6 = very important, and 7 = of supreme importance. An example of an item included in the survey is "reciprocation of favours" followed by a brief clarification "avoidance of indebtedness".

Table 2 contains the number of items contained within each scale of the Schwartz Work Value Survey and also their Cronbach's Alpha levels. Alpha levels for the scales range from .56 to .80.

Table 2: Reliability coefficients (alpha) for the Schwartz Work Value Survey scales

Scale	No. of items	Alpha
Power	5	.71
Achievement	6	.76
Hedonism	2	.67
Stimulation	3	.77
Self-direction	5	.69
Universalism	9	.80
Benevolence	9	.76
Tradition	6	.61
Conformity	4	.72
Security	7	.56

Job Satisfaction

A 6-item scale based on the Brayfield and Rothe (1951) 18-item scale was used to measure job satisfaction (Fields, 2002). Response options ranged from (1) "strongly disagree" to (5) "strongly agree" and one item was reverse scored so that the high score reflected a high satisfaction level on that item. The scale includes items such as "I like my job better than the average worker does" and "I am feel fairly well satisfied with my present job." Previous studies have shown coefficient alpha values ranging from .83 to .90 (Agho, Price, & Mueller, 1993; Agho, Mueller, & Price, 1992; Aryee, Fields, & Luk, 1999; Judge, Locke, Durham, & Kluger, 1999).

Performance Measures

As mentioned previously, performance is a multifaceted concept and is difficult to measure purely with objective data alone (Motowidlo, 2003) therefore, while accident/incident data was used as an objective measure of performance, performance ratings were also included as a subjective measure of performance.

Performance Rating Scale

Each of the three jet boat operations uses slightly different performance management systems to evaluate their drivers therefore, archived performance data could not be used. A new performance rating scale was instead devised with the assistance of one of the operations managers who acted as a Subject Matter Expert, as well as the Human Resources Manager from the parent company. A job analysis workshop was held and key performance criteria were indentified that were both homogenous and readily rateable across the three operations. Seven success factors for jet boat drivers were identified that covered all the major areas of the role of a jet boat driver – Communication, Customer service, Driver commentaries, Teamwork, Boat and personal presentation, Attitudes towards health and safety policies and procedures, and "going the extra mile". Each success factor was accompanied by several performance standards in order to provide clarity for the raters. For example, one of the performance standards for communication is "Maintains clear two-way communication at all times on the river." Raters had a choice of five performance ratings to choose from for each success factor – Outstanding (5), Very Good (4), Satisfactory (3), Opportunity for Improvement (2), and Unacceptable (1). An outline of how each of the five performance ratings related to each success factor was provided for raters. For example, part of the outline for the performance rating of Outstanding was "Performance is far above the defined role expectations". When carrying out their ratings, raters were asked to think about the driver's performance over the past year. The seven key success factors were designed with both Campbell's (1990) model of task performance and Borman and Motowidlo's (1993) taxonomy of contextual performance in mind.

Incidents

Archived incident reports were sourced from the parent company for each driver. Every time a driver is involved in an incident, the jet boat operations manager draws up a detailed report and then assigns an incident rating from 1-4 (1 = minor, 4 = major) based on the severity of the incident. These incident ratings were taken into account when totalling up the number of incidents for each driver. For example, if a driver was involved in five incidents with ratings of 3, 1, 1, 2 and 1, their incident score would be a total of 8. As some drivers had driven more trips than others over the past year, an incident prevalence score was calculated for each driver. This was done by dividing the number of trips a driver had driven, by that drivers incident score.

Procedure

Participants completed the 15FQ+ personality test prior to commencing employment as a jet boat driver and their scores were provided for analysis courtesy of the parent company. Prior to completion of the work values and job satisfaction survey, participants were informed in a disclaimer that anonymity was guaranteed, their individual results would be kept completely confidential and they had the right to withdraw from the study at any time. This ensured that the ethical requirements of informed consent were met. Each driver filled out the work values and job satisfaction surveys online through the survey website Survey Monkey (Appendix A) by clicking on the number that best represented their view for each item. The order in which the items appeared in the work value survey pertained to the correct usage as set out in the Schwartz Value Survey User Manual (2007). For ease of use for participants and

at the company's request, the Work Value Survey and Job Satisfaction surveys were contained within the same webpage. Participants first completed the values section and upon completion, were immediately exposed to the job satisfaction section afterwards.

The operations managers of the three jet boat operations completed the performance ratings for each of their drivers (Appendix B). This was done online with the Survey Monkey website. Managers were given a detailed description of what each performance rating and success factor consisted of and were asked to provide a performance rating for each of their drivers on each success factor over the past year. The incident reports were archived data provided courtesy of the parent company.

Analysis

A correlation matrix was first generated in order to observe the bivariate relationships between all of the variables used in the study. Based on the strength of the correlations of the independent variables with the dependent variables, a decision was then made to include further predictor variables into the analysis other than the already hypothesised variables. In order to determine which independent variables were in fact predictive of the dependent variables, data was analysed using a standard multiple regression procedure for each of the three dependent variables (Performance Ratings, Incidents and Job Satisfaction). Predictor variables were entered into a multiple regression equation and their strength together as a model was reported as well as their significance as an independent predictor. Whilst the sample size was

small for an analysis such as this, it was anticipated that some general relationships could be shown for future research to be built upon.

Results

Descriptive Statistics

Table 3 below shows the scale statistics for the Values and Job Satisfaction scales. No individual item scores were available for the personality factors as the 15FQ+ reports only included each participant's sten scores for each factor. Therefore, no reliability analysis was possible for the personality factors. The scale statistics presented reasonably strong Cronbach's alpha levels (ranging from .59 - .95), representing sufficient levels of internal reliability.

Table 3

Scale Statistics for all Scales

Scales	Mean	S.D	No. of items	Cronbach's Alpha
Extraversion	5.74	1.41	24	N/A
Anxiety	3.61	1.41	24	N/A
Self-Control	4.23	1.09	18	N/A
Power	17.59	6.05	5	0.84
Achievement	30.51	4.73	6	0.69
Hedonism	11.42	2.38	2	0.78
Stimulation	16.32	3.10	3	0.77
Self-direction	24.26	5.23	5	0.82
Universalism	40.45	9.69	9	0.84
Benevolence	40.13	6.95	9	0.59
Conformity	20.71	3.97	4	0.70
Job Satisfaction	23.1	4.94	6	0.95
Job Performance	28.26	2.42	7	0.68

Correlations

The correlation results for all scales are presented in Table 4. This contains the nine independent variables (3 personality and 6 values) that were hypothesised to relate to at least one of the three dependent variables (job performance ratings, incidents and job satisfaction). Due to the small sample size in this study, moderate and weak correlations between variables did not show up as significant, thus many of the hypothesised predictors did not correlate significantly with their dependent measures. In terms of personality, the only variable to show a significant relationship with any of the dependent variables was extraversion, which showed a positive correlation with job performance ($r = .39$, $p<.05$). The correlations of work values with dependent variables fared slightly better however, with self-direction correlating significantly with incidents ($r = -.48$, $p<.01$) and universalism correlating significantly with job performance ($r = .46$, $p<.01$) and incidents ($r = -.40$, $p<.05$). Power correlated significantly negatively with both job performance ($r = -.37$, $p<.05$) and job satisfaction ($r = -.36$, $p<.05$) which was of some surprise as power was not a hypothesised predictor variable for either of these two criterion measures.

Table 4

Correlations of all Variables

	1	2	3	4	5	6	7	8	9	10	11
1. Job Performance											
2. Incidents	.14										
3. Job Satisfaction	.29	.31									
4. Extraversion	.39*	-.12	-.15								
5. Anxiety	-.11	.18	.22	-.12							
6. Conscientiousness	.14	-.02	-.07	-.18	-.07						
7. Achievement	.01	-.17	-.24	.07	-.06	.41*					
8. Self-direction	-.02	-.48**	-.29	-.27	-.19	.03	.25				
9. Universalism	.46**	-.40*	.09	-.18	-.09	-.06	.10	.60**			
10. Benevolence	.11	-.26	.23	-.03	-.19	.04	.40*	.59**	.55**		
11. Conformity	.00	-.09	-.17	.05	-.13	-.13	.49**	-.07	.02	.42*	
12. Power	-.37*	.04	-.36*	.04	.19	.33	.50**	-.16	-.41*	-.23	.27

Multiple Regression Results

Independent variables were entered into a multiple regression equation for each of the three dependent variables in order to determine their predictive power. Hypothesised predictors were entered into the multiple regression and other predictors were added to each equation based on their correlations with the dependent variables (Table 4). For example, power was not hypothesised to predict job performance or incidents but was entered as a predictor based on its significant correlations with these two variables.

Job Performance Results:

The multiple regression analysis for job performance consisted of seven hypothesised predictors of job performance (extraversion, anxiety, self-control, job satisfaction, achievement, self-direction and universalism) as well as one variable (power) that was included based on the significance of its correlation with job performance (Table 4). The multiple regression resulted in a significant model ($F(8, 31) = 2.70$, $p<0.05$), accounting for 31% of the variance in job performance (Adjusted $R^2 = .31$). The information from the multiple regression analysis is presented in Table 5, which demonstrates that universalism was the only significant predictor of job performance ($\beta = .48$, $p<.05$). This does not support hypothesis one (job satisfaction predicts performance) or hypothesis three (extraversion, anxiety and self-control predict performance) but partially supports hypothesis six (achievement, self-direction and universalism predict job performance).

Table 5

Multiple Regression Analysis predicting Job Performance

Predictor	β	*SE B*	t	p
Extraversion	.23	.27	1.27	.22
Anxiety	-.11	.27	-.63	.54
Self-control	.14	.20	.76	.46
Job Satisfaction	.16	.19	.83	.42
Self-direction	-.37	.11	-1.58	.13
Power	-.28	.09	-1.30	.21
Achievement	.14	.11	.69	.50
Universalism	.48*	.06	2.06	.05

* p<.05

**p<.01

Incident Results: The multiple regression analysis for incident frequency consisted of seven hypothesised predictors of incidents (extraversion, anxiety, job satisfaction, power, achievement, and conformity). On this occasion, the analysis for incidents produced a non-significant model (F (7, 31) = 1.26, p= .31), accounting for 6% of the variance in overall incident prevalence (Adjusted R^2 = .06). The information from the multiple regression analysis is presented in Table 6, which shows that there were no significant individual predictors of incidents. Therefore, hypotheses two (job satisfaction predicts incidents), five (extraversion and anxiety predict incidents) and seven (power, achievement and conformity predict incidents) were not supported.

Table 6

Multiple Regression Analysis of Incidents

Predictor	β	*SE B*	t	p
Extraversion	-.12	.16	-.59	.56
Anxiety	.03	.17	.14	.89

Conformity	-.14	.08	-.65	.52
Self-direction	-.43	.07	-1.64	.12
Power	-.11	.06	-.45	.67
Achievement	.10	.08	.37	.71
Universalism	-.17	.04	-.64	.53

* p<.05

**p<.01

Job Satisfaction Results: The multiple regression analysis for job satisfaction consisted of six hypothesised predictors of job satisfaction (extraversion, anxiety, self-control, achievement, universalism and benevolence) as well as one variable (power) that was included based on the significance of its correlation with job satisfaction (Table 4).The linear multiple regression analysis for the predictor variables of job satisfaction also resulted in a non-significant model ($F(7, 31) = 1.08$, $p = .40$), accounting for only 7% of the variance in overall job satisfaction (Adjusted $R^2 = .07$). The information from the multiple regression analysis is presented in Table 7, which shows that there were no significant predictors of job satisfaction. Extraversion and anxiety were hypothesised to positively predict job satisfaction in hypothesis four, therefore it was not supported. Therefore, hypothesis five (extraversion, anxiety and self-control predict job satisfaction) and hypothesis eight (achievement, universalism and benevolence positively predict job satisfaction) were not supported.

Table 7

Multiple Regression Analysis of Personality predicting Job Satisfaction

Predictor	β	*SE B*	t	p
Extraversion	-.03	.32	-.13	.90
Anxiety	.29	.31	1.53	.14
Self-control	.18	.22	.86	.40

Benevolence	.41	.09	1.50	.15
Power	-.13	.11	-.51	.61
Achievement	-.42	.14	-1.49	.15
Universalism	-.08	.07	-.34	.74

* p<.05

**p<.01

Discussion

The purpose of this study was to explore whether personality traits and values that the literature has shown as historically valid predictors of job performance and job satisfaction in general, are in fact valid predictors of jet boat driver performance and job satisfaction. Additionally from an applied perspective, the study sought to provide an insight into particular traits that could be considered both desirable and avoidable for jet boat driver recruitment and selection, as well as providing an insight into the ideal profile for a jet boat driver. In the following sections, the results of the hypotheses, limitations of the research and suggestions for future research are discussed.

The study hypothesised a number of variables that could predict jet boat driver performance, incident frequency and job satisfaction. Before the study was undertaken, a literature search was conducted to help identify the personality and values scales that would most likely predict job performance and job satisfaction. Eight hypotheses were generated as a result. Contrary to what was expected, seven of the hypotheses were not supported and one was partially supported. Hypothesis Six, that values would predict job performance, was the only partially supported hypothesis consistent with the literature. Universalism was found to be a statistically significant predictor of job performance as higher levels of universalism predicted higher levels of job performance. The universalism value structure suggests that individuals who have high levels of this value believe in the tolerance and protection of the welfare of all people and nature. While at first the relationship between

universalism and job performance may seem surprising, it becomes clearer when considering the types of individuals we would expect to find in a jet boat driver role. One would expect that those who are high in universalism may well perform better if their job allowed them to be in an outdoors, adventurous type of role as they would be in an environment that is at least in some part, congruous with their values. Contrary to expectations, the other hypotheses of the present study could not be supported. Whilst the small sample size of the study undoubtedly had a large part to play in the non significant results, there are some other ways in which the results can be interpreted.

Hypotheses One and Two, that job satisfaction would be positively predictive of job performance and incidents, was not supported in either the performance ratings or the incident frequency of drivers. According to Hochwarter et al. (1999), since the relationship between satisfaction and performance is questionable and the direction of the relationship is not clear, studying this relationship without adding some other variables like degree of job fit (Carlson, 1969), pressure to perform (Ewen, 1973), tenure (Norris & Niebuhr, 1984) would have almost no consequential value. Hence, it can be argued that the lack of a significant relationship between job satisfaction and performance in the present study may be a result of not including any variables as moderators.

Hypotheses Three, Four, and Five, that personality would be predictive of performance, incidents and job satisfaction, were not supported. Hypotheses three and four were primarily based on the theory of Barrick & Mount (1991) that Extraversion, Neuroticism and Conscientiousness are the best predictors of job performance and

that highly extraverted and neurotic individuals would have more incidents (Shaw & Sichel, 1971). Hypothesis five was largely based on Judge et al.'s (2002) meta analyses regarding job satisfaction across occupations. Whilst it is surprising that none of the hypothesised personality factors were significant predictors, there are some reasons as to why this may be the case. Firstly, whilst the big-five is generally regarded as the best model of personality to date, some scholars have argued that it is too broad particularly for applied settings such as this one (Block, 2001). Due to the majority of theory being based around the big-five as well as the small sample size involved in the study, it was decided that this would be the personality measure used. However, it may be beneficial to see whether Catell's (1946) more concise 16 factors may prove to be better predictors in the future. Also, it may be that because the sample of participants is coming from the same population, that of jet boat drivers, restriction of range is contributing to the non-significant results.

As mentioned previously, hypothesis six, that values would be predictive of job performance, was partially supported by the results with universalism being a significant predictor. However, hypotheses seven and eight, that values would predict incidents and job satisfaction were not supported. Whilst no conclusions can be made from the non significant results, they could suggest a couple of things. Firstly and most obviously, whilst the jet boat drivers in this study all have their own particular values, they are simply not predicting variance in performance or satisfaction in the job. Alternatively, there could be issues with Schwartz's (1994) taxonomy and its applicability to jet boat drivers. The majority of research surrounding the Schwartz value survey in applied situations has focused on its predictive abilities in corporate

environments. It may be that a more targeted values taxonomy for jet boat drivers would reveal more conclusive results.

Limitations

There are several possible explanations for the negative findings in this study. Firstly and most obviously, it is difficult to find significant results with a sample size of 31 and therefore, it is too small to draw strong conclusions from the data. A larger sample size might have provided for greater variability in the data, and therefore, an increased ability to find significant results. Future research could enhance the present study by continuing to gather data from new jet boat drivers employed by the company. This would increase the sample size, and thus power, with an increased likelihood of detecting significant predictors. Still, even though the sample size was small, the extensive review of possible predictive factors has helped pave the way for more extensive research. In hindsight, it may have been better to use a qualitative methodology to get more in depth information rather than statistical information that was always going to be compromised by the small sample.

Another issue with the data is that the sample is likely to have been affected by restriction of range. The participants in this study had been pre-selected into the organisation through a recruitment process that involved psychometric testing, interviews and reference checks. This would suggest that those selected as jet boat drivers for the organisation would have similar traits in line with what the company was seeking. Thus, due to these potential similarities, the restriction of range in the

sample of this organisation would have decreased the likelihood of finding meaningful and significant results. In particular, it is likely that the restriction of range decreased the size of the correlation between personality and performance and the likelihood of it being significant.

A further issue concerns the way in which the job performance scores were obtained. While performance ratings were necessary in order to provide for balance that would not have been possible if purely objective incident data had been used, ratings are almost always subject to error. Arguably the most serious of these is halo error (Cooper, 1981), the phenomenon of raters assigning consistently high performance ratings to ratees based on their general feelings towards employees (Muchinsky, 2006). Halo error did seem to be a problem in this study as there was not a large amount of deviation between the ratings given for each of the success factors, despite the fact that clear instructions as to what each of the success factors and performance ratings constituted. The problem of having three separate raters (one from each of the three operations) was also an issue that likely contributed to error in the ratings although reliability analyses on the performance ratings scale did prove acceptable.

Future Research

Much of the concern surrounding the use of personality traits to predict performance and job satisfaction revolves around the inconsistency and incompatibility of various models of personality. While the Big Five is currently regarded as the best current theory of personality, it has received a considerable amount of criticism with alternative theories being proposed (Murphy & Dzieweczynski, 2005). Due to the sample size being used and the vast majority of the literature being targeted towards

the big-five, it was decided that this analysis should be limited to the big-five predictors. However it would be beneficial to see the relationships between Catell's (1946) 16 personality factors in order to see whether more specific areas of the personality inventory are found to be significant predictors.

Another area of interest might be to look at the relationship between cognitive ability and performance. Cognitive ability tests have consistently been shown as the most consistent predictor of job performance across all occupations (Schmidt & Hunter, 1998). If significant relationships were found, the organisation could look at adjusting its selection procedure to place a stronger emphasis on raw intelligence.

While this study was unable to display findings of any true substance, there are some encouraging signs as to the usefulness of personality and values as a predictor of jet boat driver performance and satisfaction. Several limitations holding back any strong conclusions to be made could be overcome in the future and this research could certainly be built upon. As it stands, this study is at the very least a stepping stone in the right direction for understanding the prediction of jet boat driver performance and satisfaction from a personality and values perspective.

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Appendix A

1. Work Values and Job Satisfaction Survey

You are invited to take part in this research project which is being conducted by Kieran Clifford as part of the requirements for his MSc in Applied Psychology at the University of Canterbury. Kieran is being supervised by Dr Linda Trenberth (University of Canterbury).

The purpose of this study is to determine whether certain personality factors and values that jet boat drivers hold are correlated with job satisfaction and job performance. It is anticipated that by identifying the factors that are predictive of performance, an ideal profile of a high performing jet boat driver will be established, thus assisting with recruitment and selection initiatives for new drivers.

Whilst we do require employee names for this section of the study in order to interpret results correctly, please be assured that results in the final study will be kept completely anonymous. The results will be utilised in order to create a psychometric profile of an ideal jet boat driver and individual results will not be reported in the final analysis. The researchers are the only people who will have access to the information collected. You have the right to withdraw from the study at anytime.

There are 56 questions regarding your values and 6 questions regarding your job satisfaction. The survey should take approximately 20 minutes to complete. By continuing with this survey, please note you are giving your informed consent to participate in this study.

If you would like to ask further questions relating to this research, please contact Kieran Clifford on:

Telephone: 021 1858843, or Email:
kpc22@student.canterbury.ac.nz

Work Values

The purpose of this section is to measure the importance you place on each of the values below as "a guiding principle in my life"

Please indicate how important you consider each of the following values as "a guiding principle in my life"

Opposed to my values	Not Important			Important			Very Important	Supremely Important
EQUALITY (equal opportunity for all)								
-1	0	1	2	3	4	5	6	7
INNER HARMONY (at peace with myself)								
-1	0	1	2	3	4	5	6	7
SOCIAL POWER (control over others, dominance)								
-1	0	1	2	3	4	5	6	7
PLEASURE (gratification of desires)								
-1	0	1	2	3	4	5	6	7
FREEDOM (freedom of action and thought)								
-1	0	1	2	3	4	5	6	7
A SPIRITUAL LIFE (emphasis on spiritual not material matters)								
-1	0	1	2	3	4	5	6	7
SENSE OF BELONGING (feeling that others care about me)								
-1	0	1	2	3	4	5	6	7
SOCIAL ORDER (stability of society)								
-1	0	1	2	3	4	5	6	7
AN EXCITING LIFE (stimulating experiences)								
-1	0	1	2	3	4	5	6	7
MEANING IN LIFE (a purpose in life)								
-1	0	1	2	3	4	5	6	7
POLITENESS (courtesy, good manners)								
-1	0	1	2	3	4	5	6	7
WEALTH (material possessions, money)								
-1	0	1	2	3	4	5	6	7
NATIONAL SECURITY (protection of my nation from enemies)								
-1	0	1	2	3	4	5	6	7
SELF RESPECT (belief in one's own worth)								

-1 0 1 2 3 4 5 6 7

RECIPROCATION OF FAVOURS (avoidance of indebtedness)

-1 0 1 2 3 4 5 6 7

CREATIVITY (uniqueness, imagination)

-1 0 1 2 3 4 5 6 7

A WORLD AT PEACE (free of war and conflict)

-1 0 1 2 3 4 5 6 7

RESPECT FOR TRADITION (preservation of time-honoured customs)

-1 0 1 2 3 4 5 6 7

MATURE LOVE (deep emotional and spiritual intimacy)

-1 0 1 2 3 4 5 6 7

SELF DISCIPLINE (self-restraint, resistance to temptation)

-1 0 1 2 3 4 5 6 7

INDEPENDENT (self reliant, self sufficient)

-1 0 1 2 3 4 5 6 7

MODERATE (avoiding extremes of feeling & action)

-1 0 1 2 3 4 5 6 7

LOYAL (faithful to my friends, group)

-1 0 1 2 3 4 5 6 7

AMBITIOUS (hard working, aspiring)

-1 0 1 2 3 4 5 6 7

BROADMINDED (tolerant of different ideas and beliefs)

-1 0 1 2 3 4 5 6 7

HUMBLE (modest, self-effacing)

-1 0 1 2 3 4 5 6 7

DARING (seeking adventure, risk)

-1 0 1 2 3 4 5 6 7

PROTECTING THE ENVIRONMENT (preserving nature)

-1 0 1 2 3 4 5 6 7

INFLUENTIAL (having an impact on people and events)

-1 0 1 2 3 4 5 6 7

HONOURING OF PARENTS AND ELDERS (showing respect)

-1 0 1 2 3 4 5 6 7

CHOOSING OWN GOALS (selecting own purposes)

-1 0 1 2 3 4 5 6 7

HEALTHY (not being sick physically or mentally)

-1 0 1 2 3 4 5 6 7

CAPABLE (competent, effective, efficient)

-1 0 1 2 3 4 5 6 7

ACCEPTING MY PORTION IN LIFE (submitting to life's circumstances)

-1 0 1 2 3 4 5 6 7

HONEST (genuine, sincere)

-1 0 1 2 3 4 5 6 7

PRESERVING MY PUBLIC IMAGE (protecting my "face")

-1 0 1 2 3 4 5 6 7

OBEDIENT (dutiful, meeting obligations)

-1 0 1 2 3 4 5 6 7

INTELLIGENT (logical, thinking)

-1 0 1 2 3 4 5 6 7

HELPFUL (working for the welfare of others)

-1 0 1 2 3 4 5 6 7

ENJOYING LIFE (enjoying food, sex, leisure, etc.)

-1 0 1 2 3 4 5 6 7

DEVOUT (holding to religious faith & belief)

-1 0 1 2 3 4 5 6 7

RESPONSIBLE (dependable, reliable)

-1 0 1 2 3 4 5 6 7

CURIOUS (interested in everything, exploring)

-1 0 1 2 3 4 5 6 7

FORGIVING (willing to pardon others)

-1 0 1 2 3 4 5 6 7

SUCCESSFUL (achieving goals)

-1 0 1 2 3 4 5 6 7

CLEAN (neat, tidy)

-1 0 1 2 3 4 5 6 7

Job Satisfaction Questionnaire

The following questions are designed to measure your current level of job satisfaction.

Please indicate the extent to which you agree or disagree with the following statements regarding your job

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
I am often bored with my job				
1	2	3	4	5
I feel fairly well satisfied with my present job				
1	2	3	4	5
I am satisfied with my job for the time being				
1	2	3	4	5
Most days I am enthusiastic about my work				
1	2	3	4	5
I like my job better than the average worker does				
1	2	3	4	5
I find real enjoyment in my work				
1	2	3	4	5

Appendix B

1. Jet Boat Driver Performance Ratings - Introduction

You are invited to take part in this research project which is being conducted by Kieran Clifford as part of the requirements for his MSc in Applied Psychology at the University of Canterbury. Kieran is being supervised by Dr Linda Trenberth (University of Canterbury) and Teresa MacGregor (OPRA Consulting).

The purpose of this study is to determine whether certain personality factors and values that jet boat drivers hold are correlated with job satisfaction and job performance. It is anticipated that by identifying the factors that are predictive of performance, an ideal profile of a high performing jet boat driver will be established, thus assisting with recruitment and selection initiatives for new drivers.

Whilst we do require employee names for this section of the study in order to interpret results correctly, please be assured that results in the final study will be kept completely anonymous. The results will be utilised in order to create a psychometric profile of an ideal jet boat driver and individual results will not be reported in the final analysis. The researchers are the only people who will have access to the information collected. You have the right to withdraw from the study at anytime.

By continuing with this survey, please note you are giving your informed consent to participate in this study.

If you would like to ask further questions relating to this research, please contact Kieran Clifford on:

Telephone: 021 1858843, or Email:
kpc22@student.canterbury.ac.nz

Instructions:
The following section requires you as the manager/supervisor, to rate each of your jet boat drivers performance for the past year on 7 job related success

factors. Once you have completed the ratings for a driver, the window will close and you can rate the next driver by clicking on the link given to you in the email.

This section requires you to give the driver in question a rating on each of the 7 success factors to follow. Please consider the drivers performance OVER THE PAST YEAR on each of the success factors as if you were doing an annual review. The performance standards for each success factor are outlined to assist you in making your ratings.

Below is a guideline of the five different ratings to choose from for each of the success factors. Please consider these carefully when making each of your ratings.

Outstanding
- Performance is far above the defined role expectations.
- The driver consistently does outstanding work in the role, regularly going far beyond what is expected of employees in this role.
- Performance that exceeds expectations is due to the effort and skills of the driver.
- Any performance not consistently exceeding expectation is minor or due to events not under the control of the driver.

Very Good
- Performance meets the defined role expectations and, in many instances, exceeds role expectations.
- The driver generally is doing well in this role.
- Performance that exceeds expectations is due to the effort and skills of the driver.

Satisfactory
- Performance meets the defined role expectations.
- The driver is doing the role at the level expected for employees at this position.
- Satisfactory performance is due to the driver's own effort and skill

Opportunity for Improvement
- Performance may meet some of the role expectations but does not fully meet the remainder.

- The driver generally is doing the role at a minimal level, and improvement is needed to fully meet the expectations.
- Performance is less than satisfactory
- Lapses in performance are due to the driver's lack of effort or skills.

Unacceptable
- Performance generally fails to meet the defined expectations or requires frequent, close supervision and/or the redoing of work.
- The driver is not performing at the level expected for the role
- Unsuccessful performance is due to the driver's own lack of effort and skill.

1. Communication

Performance Standards:
- Writes, speaks and/or presents information effectively.
- Maintains clear two-way communication at all times on the river.
- Maintains harmonious working relations between team members.
- Shares information that helps others do their job well.

Select Performance Rating

Performance Rating for Communication

2. Customer Service

- Meet and greet of passengers at jetty
- Assisting with lifejackets where possible
- Escorting passengers to operations base if appropriate
- Ensures a request has a timely and complete response

Select Performance Rating

Performance Rating for Customer Service

3. Commentaries

- Provides interesting, informative and amusing commentaries

- Develops interpersonal skills that provide for excellent rapport with passengers
- Utilises humour and body language to best advantage

Select Performance Rating

Performance Rating for Commentaries

4. Teamwork

- Participates actively in team meetings and team decision making
- Shares ideas, information and resources
- Skilled at listening sympathetically to others and at providing guidance and assistance when required
- Uses language and actions that convey an encouraging attitude to others
- Works to enhance the quality of output of individuals and the team

Select Performance Rating

Performance Rating for Teamwork

5. Boat and Personal Presentation

- Prepares boat daily, mindful of cleanliness inside and out
- Care maintained to minimise cosmetic damage to the boat and any knocks reported
- Correct uniform worn and maintained in good condition
- Name badge worn and visible at all times

Select Performance Rating

Performance Rating for Boat & Personal Presentation

6. Attitude Towards Health & Safety Policies and Procedures

- Shows a positive attitude towards following safe work practices and participates in safety training as appropriate
- Promptly reports any incidents and dispays an active concern in documenting them
- Proactively identifies potential hazards in the workplace

- Shows an active concern in maintaing a high level of health & safety in the workplace

	Select Performance Rating
Performance Rating for "Attitude Towards Health & Safety Policies & Procedures"	

7. "Going the Extra Mile"

- Persisting with enthusiasm and extra effort as necessary to complete task activities successfully
- Volunteering to carry out task activities that are not formally part of the job
- Helping and cooperating with others
- Endorsing, supporting and defending the organisations objectives

	Select Performance Rating
Performance Rating for "Going the Extra Mile"	